



- **8-58.** Graph $y = x^2 - 8x + 7$ and label its vertex, x -intercepts, and y -intercepts. [Homework Help](#) 
- **8-59.** What is special about the number zero? Think about this as you answer the questions below. [Homework Help](#) 

a. Find each sum:


$$0 + 3 = \quad -7 + 0 = \quad 0 + 6 = \quad 0 + (-2) =$$

- b. What is special about adding zero? Write a sentence that begins, “When you add zero to a number, ...”
- c. Julia is thinking of two numbers a and b . When she adds them together, she gets a sum of b . Does that tell you anything about either of Julia’s numbers?

d. Find each product:

$$3 \cdot 0 = \quad (-7) \cdot 0 = \quad 0 \cdot 6 = \quad 0 \cdot (-2) =$$

- e. What is special about multiplying by zero? Write a sentence that begins, “When you multiply a number by zero, ...”

8-60. Based on the tables below, say as much as you can about the x- and y-intercepts of the corresponding graphs. [Homework Help](#) 

a.


x	2	0	-4	-1	6	3
y	0	18	0	-8	22	0

b.


x	7	3	10	0	8	-7
y	-4	0	8	-3	0	-1


c.

x	0	-5	3	1	13	-6
y	-4	11	-2	0	27	14

8-61. In speed golfing an athlete's score is determined by adding the number of strokes to complete a course to the minutes required to finish. For example 90 strokes in 51 minutes would be a score of 141. The lower the score, the better. Diego wants to see if there is a relationship between the time, t , it takes for him to complete a speed golfing match and the number of strokes, s , he takes in the same match. If so, perhaps focusing on running faster will also reduce the number of strokes. [8-61 HW eTool \(Desmos\)](#). [Homework Help](#) 

Time, t	56	92	56	58	45	50
Strokes, s	86	90	80	91	77	86

- Create a scatterplot with pencil and paper. Determine Diego's best score and circle the point representing Diego's best total score.
 - Discuss what you can about the association from observation of the scatterplot.
 - Diego recalls that he was suffering from seasonal allergies that slowed his running on a particular course. Cross out that point. Then use your intuition and draw a line of best fit from the remaining points.
 - Estimate the slope of your trend line and interpret it in the context of the problem.
 - Should Diego train to reduce his time so that he sees a decrease in his golf score?
- 8-62.** Solve the following systems of equations using any method. Check your solution if possible. [Homework Help](#) 
 - $$\begin{aligned} 6x - 2y &= 10 \\ 3x - y &= 2 \end{aligned}$$
 - $$\begin{aligned} x - 3y &= 1 \\ y &= 16 - 2x \end{aligned}$$

- **8-63.** The " \leq " symbol represents "less than or equal to," while the " $<$ " symbol represents "less than." [Homework Help](#) 
- a. Similarly, translate " \geq " and " $>$."
- b. How can you write an expression that states that 5 is greater than 3?
- c. Write another expression that states that x is less than or equal to 9.
- d. Translate the expression $-2 < 7$ into words.